

REMARKS/ARGUMENTS

It is noted with appreciation that claims 2-3, 7, 9 and 12 have been indicated to contain allowable subject matter.

Proper support for the amendments of claims 13 and 14 can be found on page 47, line 26 to page 48, line 11 and page 38, lines 12-22 of the specification, respectively. Additionally, proper support for new claims 20 and 21 can be found on page 25, lines 15-19 and page 28, lines 15-26 of the specification, respectively. Accordingly, it is submitted that no new matter has been added by the way of any amendment(s) presented.

Rejections under 35 U.S.C. § 102

On page 2 of the Office Action, the Examiner has rejected claims 1, 5-6 and 8 under 35 U.S.C. § 102(b) as being anticipated by Mirick (3,674,729), claims 10 and 11 under 35 U.S.C. § 102(b) as being anticipated by Mirick (3,674,729), claims 13-19 under 35 U.S.C. § 102(b) as being anticipated by Mirick (3,674,729), claims 1, 5-6 and 8 under 35 U.S.C. § 102(b) as being anticipated by Sharma et al. (5,480,920), claims 10 and 11 under 35 U.S.C. § 102(b) as being anticipated by Sharma et al. (5,480,920), claims 1, 5-6 and 8 under 35 U.S.C. § 102(b) as being anticipated by Sanborn (5,925,693), and claims 10 and 11 under 35 U.S.C. § 102(b) as being anticipated by Sanborn (5,925,693). Each of claims 1, 13 and 14 have been so amended herein so that they now patentably distinguish from the cited art.

Applicants respectfully assert that amended independent claims 1, 13 and 14 of the application are patentably distinguishable over the cited references. In order for a reference to anticipate a claim, the reference must teach every element of the claim. In the instant application, each of claims 1, 13 and 14, as amended, recite a "correction ink for micro defect of a color

pattern comprising a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec.”

None of the cited references anticipate independent claims 1, 13 and 14 because they do not show the use of a correction ink having the aforementioned claimed limitations. To the contrary, Mirick, at column 4, lines 45-51, merely discloses copolymerization ratio of monomers at the time of polymerizing an acrylate resin, and does not disclose that a monomer is included in a correction fluid composition. Mirick discloses an ink obtained by mixing TiO₂, carbon black and a toning iron blue pigment and that a polymer is included in the correction fluid composition. Further, column 5, lines 44-56 of Mirick pointed out as “monomer having a photo curable resin” mentions optical brightening agents with examples of compounds having one C-C double bond in one molecule. The optical brightening agents are disclosed as fluorescent organic substances which absorb ultraviolet radiation above 3,000 Å and emit this as visible radiation below 5,500 Å, thus they are not intended to be polymerized. Additionally, even with the optical brightening agents that are included, a high cross-linking density cannot be obtained by cross-linkage between molecules in net-like form. Further, optical brightening agents do not have a function to be substituted for a part of a solvent. Therefore, the optical brightening agents are quite different from “monomer having two or more reactivity functional groups in one molecule” used in the present invention as a binder component which can be replaced for a part of a solvent and can crosslink in net-like form not only in structure but also in function. Mirick fails or teach or disclose “correction ink for micro defect of a color pattern comprising a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a

solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec.”

With respect to claim 13, by including the step of radiating light to cure, in the case of containing monomer or polymer having a photo reactive function group in the correction ink specified in the amended claim 1, it is possible to cure a surface of a corrected portion quickly or to cure the whole correcting portion in short time. (See page 47, line 26 to page 48, line 11). Mirick, as discussed above, discloses optical brightening agents. The optical brightening agents are disclosed as fluorescent organic substances which absorb ultraviolet radiation above 3,000 Å and emit this as visible radiation below 5,500 Å, thus they are not intended to be polymerized.

Regarding amended claim 14, a process for producing a correction ink of the present invention comprises a step of preparing a coloring agent dispersion by dispersing each coloring agent separately or at the same time in the solvent, thus, dispersed conditions of all coloring agents being used are good. A varnish of the present invention is prepared by mixing monomer having reactivity functional groups and polymer as in claim 14. However, in the Example cited in Mirick by the Examiner, after an acrylate resin is solved in a solvent, a pigment and a pigment paste are directly added thereto and mixed followed by adding a pine oil as a part of the solvent. The pine oil is not the varnish in the present invention.

Sharma et al., at column 2, lines 55-61 and column 3, lines 24-40, merely discloses monomers used to prepare an acrylic polymer, and that yellow oxide and raw amber can be employed. The polymer is used for a correction fluid. Sanborn discloses that yellow, red and brown pigments may be used, and, at column 3, lines 55-65, that 20 to 30 % of a constitutional unit of copolymer is an amine functional monomer contained as a constitutional unit of an acrylic copolymer. The copolymer is used for a correction fluid. Both Sharma et al. and

Sanborn fail to teach or disclose a “correction ink for micro defect of a color pattern comprising a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec.”

Applicants respectfully submit that none of the cited references teach or suggest a correction ink having the above-described elements. Accordingly, independent claims 1, 13 and 14 are in condition for allowance. Claims 2-12, 15-19, and newly added claims 20-21 are all dependent, in one form or another on claims 1, 13 and 14 and therefore are allowable for the same reasons with respect to claims 1, 13 and 14.

Additionally, with regard to claim 10, a color filter as specified therein is characterized in that a micro defect in a color pattern is corrected by filling with cured product of a particular correction ink.

In all the references cited by the Examiner, only a correction fluid to be used on a paper is disclosed. There is no teaching or disclosure directed toward correcting a color filter.

Further, the cured product of an ink in the present invention is an ink hardened by a chemical reaction and different from the case of a solid obtained solely by volatilization of a solvent. None of the cited teach or disclose a cured product hardened by a chemical reaction.

Rejections under 35 U.S.C. § 103

On page 6 of the Office Action, the Examiner has rejected claims 1, 4-6 and 8 under 35 U.S.C. § 103(a) as being unpatentable over McHugh et al. (5,872,162). Applicants note that claim 5 has been cancelled herein.

Applicants respectfully traverse the rejections. The Applicants respectfully submit that the §103 rejection of claims 1, 4, 6 and 8 should be withdrawn as the rejections set forth in the Action fail to demonstrate that McHugh et al. teaches or suggests all of the elements of claims 1, 4, 6 and 8. Further, Applicants believe that the Action fails to provide sufficient motivation that would compel one with skill in the art to modify McHugh et al. to include all the features of claims 1, 4, 6 and 8.

Specifically, McHugh et al. does not teach or suggest a “correction ink for micro defect of a color pattern comprising a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec” as required by independent claim 1, upon which claims 4, 6 and 8 depend.

McHugh et al. discloses that yellow, red and brown pigments may be used. However, McHugh et al. fails to teach or disclose obtaining a black ink by mixing red, yellow and blue pigments. Additionally, McHugh et al. fails to teach or disclose using both monomer and polymer binder components. A polymerization inhibitor is not specifically disclosed in the Example pointed out by the Examiner regarding the polymerization inhibitor.

There is no teaching or suggestion of a “correction ink for micro defect of a color pattern comprising a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec” in McHugh et al. as disclosed in the present application. Therefore, the Applicants respectfully submit that the Office Action fails in its burden of establishing that McHugh et al. teaches or suggests all of the elements of claims 1, 4, 6 and 8.

Even if this reference was properly combinable, McHugh et al. alone or in combination with the knowledge of one of ordinary skill in the art at the time the invention was made does not disclose or render obvious Applicants' invention. Specifically, the combination of this reference and the reasons given by the Examiner for the combination do not disclose what is required by the Applicants' claims – correction ink for micro defect of a color pattern comprising a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec.

This combination also does not teach or suggest a correction ink expressly or inherently having the claimed requirements of Applicants' correction ink. It is advantageous to provide a correction ink that has a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec. One advantage to using the correction ink of the present invention is that it improves solvent resistance and heat resistance of a corrected portion and adhesive property to a coating-receiving surface compared to the case using polymer singly. (See page 13, line 23 to page 14, line 1).

Another advantage is that a solvent can be partially replaced by the monomer having reactivity functional group so that the content of the solvent in the ink can be reduced, thereby decreasing: (1) the volatilizing amount to improve physical stability such as viscosity or the like of the ink at the time of preserving and using, and (2) the volume decrease rate due to volatilization of the solvent after applying the ink becomes small. The small volume decrease rate makes it possible to sufficiently thicken the layer thickness of a color omission portion

where ink is supplied with small deposition amount of the ink relieving the bother of applying the ink repeatedly. It can also avoid forming of a new protrusion and emergence of a color mixing defect as the imparted ink drop is small in area even before drying and not likely to run off to surroundings. (See page 14, lines 2-14).

In conclusion, it is believed that the Action has failed to establish a prima facie case for obviousness of claims 1, 4, 6 and 8. It is the Examiner's burden to show that the prior art relied upon coupled with the knowledge generally available in the art at the time of the invention must contain a suggestion or incentive that would have motivated one of ordinary skill in the art to combine references. The Examiner must also show that the proposed combination must have a reasonable expectation of success. It is inappropriate for the Examiner to use the present application as a motivation to combine the references. This inappropriate combination, taking bits and pieces from each reference in an attempt to create Applicants' invention, is exactly what the Examiner has done.

The Applicants respectfully submit that claims 4, 6 and 8 are allowable for the same reasons as given with respect to claim 1. As claims 4, 6 and 8 are dependent on claim 1, Applicants respectfully submit that these claims are allowable for the same reasons as given with respect to claim 1.

In view of the aforesaid, it is respectfully submitted that claims 1, 4, 6 and 8 are not obvious. Applicants believe to have set forth throughout this response differences distinguishing the claimed correction ink over the McHugh et al. reference. Absent any legally recognized motivation as discussed herein above, it is respectfully submitted that one would not/could not achieve the result which is now set forth in the claims for the reasons discussed above.

Therefore, since McHugh et al. fails to teach or disclose a correction ink, including a coloring agent, monomer having two or more reactivity functional groups in one molecule, polymer and a solvent, wherein an amount of the solvent is from 25% by weight to 70% by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa · sec, Applicants respectfully submit it does not anticipate or render obvious any of the pending claims.

Applicants respectfully request favorable reconsideration of the claimed invention and early issuance of the Notice of Allowance.

Conclusion

In view of the foregoing, it is submitted that each of the claims 1-4 and 6-21 are now in condition for allowance and the Notice of Allowance thereof is respectfully requested to be issued. The Examiner is invited to contact the undersigned attorney to discuss any matters pertaining to the present application.

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Respectfully submitted

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